In this particular species, alone, of those examined, the release of the insect was not effected when it had successfully drawn foot or tongue along the whole length of this anther trap, as the gland which then receives it is firmly attached to the stigma by a broad ligament at its upper end; and all, excepting possibly the most powerful insects, are still held, while from other species of the family they fly off bearing the pollen masses with them. These in turn are caught in similar channels of other flowers, and lodged against the under surface of the stigma, when their pollen tubes are protruded and fertilization effected.

This, if not necessarily *cross* fertilization is, at least, fertilization by pollen from the same or other flowers placed by an extraneous force against the stigmatic surfaces; and that the singular arrangement of parts just mentioned, apparently so wonderfully calculated to facilitate it, *is* made use of, is very evident. In the course of his observations upon a cultivated plant of *Asclepias curassavicum* during the season of insect visitation, it was rare to find a mature flower which had not lost some of its glands and pollen masses, and very frequently all were missing. In many of these, the pollinia from other flowers were to be found in the situation before stated; and it was a very noticeable fact that from 50 to 80 per cent. of the flowers in these groups were fertilized, while those from which insects were excluded failed to produce a single fertile follicle. A bee captured upon this plant carried upon its legs and tongue thirty of the glands, representing sixty pollen masses. By far the larger number of the latter had been torn away from the glands since their removal, and possibly were the agents in making fertile nearly the same number of flowers.

A very singular fact on the opposite side of the account was mentioned by Mr. Meehan in the Botanical Section: that *Araujia albens* rarely fruited when exposed to insects in the open air, but in green-houses produced pods freely.

On Amber containing Fossil Insects.—Mr. E. Goldsmith called attention to a specimen of amber collected by Mr. Wm. L. Mactier at Nantucket Island, Mass., in which were several well-preserved fossil ants, a fly, and probably small species of coleoptera The specimen also contains a dicotyledonous leaf, of a cinnamon brown color, with the edges free, and the impression of another. This was the first specimen of American amber examined by him in which a trace of imbedded insects could be observed, although this may have been owing to the fact that the others were cretaceous, and therefore, on account of their age, opaque.

The amber from Nantucket Island is probably tertiary, and is of a fine pale claret color without being at all variegated. The specimen examined was an irregular mass of about eleven centimetres in length, somewhat pointed at one end and thicker and rounder at the other, with longitudinal furrows. It is a little heavier than water. The lustre is resinous, but if freshly fractured

it is glassy. The form of the fracture is conchoidal and perfectly smooth. Hardness between two and three. The specimen resembles in its external aspect fossil copal so much that it may be easily mistaken for that material. The fresh vitreous lustre of the amber, however, remains after repeated rubbing and exposure, while copal becomes dull under such treatment. The amber may be worked with a file or an edge tool into even surfaces; under like treatment copal crumbles, and gives an uneven glistening plane. When the finger is rubbed to and fro on the amber it will not powder or become mealy like copal. When a portion of the specimen was gently heated in a glass tube closed on one end a dense gas was obtained having the odor of burning fat. After cooling minute radiating groups of crystals were noticed; fossil copal gives no such indications. The amber burns with a yellow smoking flame, emitting an odor not so disagreeable as that given off during distillation, and leaves some unconsumed carbon. The powder is white, and, if brought in contact with oil of vitriol, it will readily dissolve, forming a ruby red solution, which, when poured into water, gives a nearly colorless precipitate partially in a crystalline state. It is decomposed by nitric acid, forming at first a soft yellow compound which afterwards dissolves. If the excess of the nitric acid be evaporated and water added, thin plates of a golden-yellow color form. These plates appear to be succinic acid; they easily dissolve in caustic ammonia, and the solution affords, with a solution of sesquichloride of iron, the well-known cinnamon-brown precipitate of succinate of iron. Both solutions were perfectly neutral. From the solution of the succinate ammonia the succinic acid can be separated on the addition of nitric acid. This process for observing succinic acid in amber is especially applicable when but a small quantity of the acid is present, in which case the process by sublimation fails or becomes uncertain. Chloroform is a good solvent for amber, but alcohol, ether, and bisulphide of carbon dissolve it only sparingly. Copal when kept in ether swells to a greater volume; amber does not increase in bulk.

October 21.

The President, Dr. Ruschenberger, in the chair.

Thirty-one members present.

A paper entitled "On some New Eocene Fossils from the Claiborne Marine Formation of Alabama," by Angelo Heilprin, was presented for publication.

Ward's Natural Science Establishment.—Prof. Leidy stated that the reputation of Prof. Henry A. Ward's "Natural Science Establishment," at Rochester, N. Y., was such, that lately he had